

CLAIMS:

1. A chip system for the controlled emission of a substance having a chemosensory effect, comprising:

- 5 a chip carrier matrix;
a carrier layer comprising the substance having a chemosensory effect;
a promoter layer comprising an emission promoter; and
an emission control layer, which is a membrane or a polymer matrix.

10 2. The chip system according to Claim 1, wherein the promoter layer is connected to an additional layer containing a promoter.

15 3. The chip system according to Claim 1, further comprising an adhesive layer on an external underside of said chip carrier matrix; and
a covering layer which is removable from a top of said emission control layer.

20 4. The chip system according to Claim 1, wherein said chip system further comprises a heater.

25 5. The chip system according to Claim 1, wherein said promoter layer contains a delayed release carrier particle.

30 6. The chip system according to Claim 1, further comprising an electronic microchip.

7. The chip system according to Claim 1, wherein said promoter in said promoter layer is controlled mechanically, thermally, electrically, magnetically, biologically, chemically, bio-chemically, or by a combination of such measures;

wherein a regulation of a promotion of emission of said substance having a chemosensory effect occurs in a program series in an open loop or a closed loop technology.

8. The chip system according to Claim 1, wherein said promoter is selected from the group consisting of an ethanol solution; a distilled oil; a synthetic chemical substance that possess a physicochemical property that is comparable to that of an ethanolic oil or a distilled oil; a technical gas; a natural gas; and a combination thereof;

wherein said promoter is initially present in the solid, liquid or gaseous state; and wherein an individual promoter or a combination of promoters may be used.

9. The chip system according to Claim 1, wherein said membrane or said polymer matrix consists of a natural substance or an artificial synthetic polymer;

wherein said membrane or said polymer matrix has at least one opening for the emission;

wherein said opening is applied by a mechanical aid or by a laser technique;

wherein a diameter of said opening is controlled dynamically and separately.

10. The chip system according to Claim 1, wherein said carrier layer and said promoter layer are housed in a commonly shared matrix layer.

11. The chip system according to Claim 1, wherein a spatial dimension of the chip system is in the range of 0.001 micrometer to 100 centimeter.

12. The chip system according to Claim 1, wherein said chip system is directly combined with a technical device that influences or controls the quantity and composition of air.

13. The chip system according to Claim 12, wherein said technical device influences one of a flow of the air, an air temperature, an air ionization, an air filtration, an aromatizing of the air, a humidity of the air or an admixture of air with a liquid, a solid, or a gas.

14. The chip system according to Claim 1, wherein each component is made from a material selected from the group consisting of a flexible material, an expandable material, a transparent material, an electrically conductive material, a light-emitting material, a light absorbing material, a heat-storing material, a heat-emitting substance, a magnetic material, an electrically conductive metal foil, an electrically conductive plastic, an electronic component, a porous natural or synthetic polymer and a combination thereof.

15. The chip system according to Claim 1, wherein said chip system is coupled with a device with which the content or the biological activity of a chemosensorially active substance or of its associated products or a product of its degradation is determined or displayed.

16. The chip system according to Claim 1, which is coupled with at least one identical or different chip system to build a complex combination of chip systems.

17. The chip system according to Claim 1, wherein said carrier layer comprises a natural or synthetic chemosensorially active substance that is suitable for influencing a disorder of the central or vegetative nervous system.

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18. The chip system according to Claim 17, wherein said disorder is a behavioral disorder, a symptom of stress, a sleep disorder, an anxiety disorder, an aggressive disorder, an eating disorder, an weight disorder, a sexual disorder, a reproductive disorder, pain, a vascular disorder, a circulatory disorder or a combination thereof.

19. The chip system according to Claim 1, wherein said chemosensorially active substance is an active signaling substance in the human sphere, in the animal sphere, in the plant sphere, in an environmental system or in a biological regulatory process;

wherein said chemosensorially active substance or its natural or synthetic analog, its metabolite, its derivative, its isomer, its antagonist, or a combination thereof may be used.

20. The chip system according to Claim 1, wherein said chemosensorially active substance, is contained one of a pharmaceutical product, a product of veterinary medicine, a medical aid, a product for health care, a product for care of the body, a cosmetic article, a perfumed article, a natural or artificial foodstuffs or beverage, a dietetic product, a plant, an agricultural product, a biological, microbiological, or chemical product for agricultural, horticultural, forest management and marine management, an agent to fend off or eliminate a harmful animal, a plant or a micro-organism, a household article, a sporting article, and an article for use, a packaging material, an article of clothing;

wherein said chemosensorially active substance or its natural or synthetic analog, its metabolite, its derivative, its isomer, its antagonist, or a combination thereof may be used.

21. A process for the controlled emission of a substance having a chemosensory effect, comprising:

releasing said substance or a mixture of at least two substances having a chemosensory effect from the chip system according to Claim 1 as a volatile substance or a volatile mixture of at least two substances;

wherein a thermodynamic diffusion activity of said substance or said mixture of at least two substances is controlled by said promoter; and

wherein a rate of emission of said substance or said mixture of at least two substances is controlled by a layer that serves as a diffusion control;

wherein a promotion of said emission is governed chemically, physically, or biologically.

22. The process according to Claim 21, wherein said promoter layer contains a delayed release carrier particle.

23. The process according to Claim 21, wherein said promoter in said promoter layer is controlled mechanically, thermally, electrically, magnetically, biologically, chemically, bio-chemically, or by a combination of such measures;

wherein a regulation of a promotion of emission of said substance having a chemosensory effect occurs in a program series in an open loop or a closed loop technology.

24. The process according to Claim 21, wherein said promoter is an ethanol solution;
a distilled oil; a synthetic chemical substance that possess a physicochemical property that is
comparable to an ethanolic oil or a distilled oil; a technical or natural gas;
wherein said promoter is initially present in the solid, liquid or gaseous state; and
wherein an individual promoter or a combination of promoters is used.

25. The process according to Claim 21, wherein said chemosensorially active
substance is suitable for influencing a disorder of the central or vegetative nervous system.

26. The process according to Claim 25, wherein said disorder is a behavioral disorder,
a symptom of stress, a sleep disorder, an anxiety disorder, an aggressive disorder, an eating
disorder, a weight disorder, a sexual disorder, a reproductive disorder, pain, a vascular
disorder, a circulatory disorder or a combination thereof.

27. The process according to Claim 21, wherein said chemosensory active substance
is an active signaling substance in the human sphere, in the animal sphere, in the plant sphere,
in an environmental system or in a biological regulatory process;
wherein said chemosensorially active substance or its natural or synthetic analog, its
metabolite, its derivative, its isomer, its antagonist, or a combination thereof is used.

28. The process according to Claim 21, wherein said chemosensorially active
substance, is contained in a pharmaceutical product, in a product of veterinary medicine, in a
medical aid, in a product for health care or care of the body, in a cosmetic article or a
perfumed article, in a natural or artificial foodstuffs or beverage, in a dietetic product, in a
plant or an agricultural product, in a biological, microbiological, or chemical product for

agricultural, horticultural, forest management and marine management, in a agent to fend off
or eliminate a harmful animal, in a plant or a micro-organism, in a household article, in a
sporting article, and in an article for use, in a packaging material, in an article of clothing;
wherein said chemosensorially active substance or its natural or synthetic analog, its
5 metabolite, its derivative, its isomer, its antagonist, or a combination thereof is used.